

ABSTRACT OF THE DISCLOSURE

A porous membrane is provided by biaxially stretching a film of high density polyethylene (HDPE), including particles of an incompatible material. This film has a meshed network of HDPE fibers and striations of 5 layers coplanar with the plane of the film. This film is porous in a direction perpendicular to the plane of the film and has a void content of at least 20%. The porous membrane may have one or more nonporous backing layers. The membrane may be used as filter or battery separator.